

**CHAPTER 8**  
**REINFORCEMENT****BLM 8-9**

# All the Better to See You With

**Goal** • Complete the sentences to show your understanding of the eye and its defects.

## What to Do

- Review pages 246 and 247. Complete the sentences by filling in the blanks with words from the list below. Not all words will be used, and some may be used more than once.
- 1. The lens in your eye is a convex lens. Its job is to focus the light leaving the object onto the retina, the back of the eye, where there are light sensors.
- 2. Look at figure 8.10A. Compare the light coming from nearby objects and the light from distant objects. Light rays from closer objects have to have their direction changed the most by the lens in order to focus on the retina.
- 3. Compare the shape of the lens in each case in Figure 8.10A. To focus the light from nearby objects, the eye's lens must be made thicker and more convex. This is the job of the ciliary muscles.
- 4. Look at Figure 8.10B. If the ciliary muscles are weak, or the eyeball is too short, then the lens cannot thicken enough to focus light from nearby objects. Such a condition is called far-sightedness. To help the eye focus the light, a convex lens can be used to begin converging the light rays.
- 5. If the eyeball is too long, the light from distant objects focusses in front of the retina. This condition is called near sightedness. There is nothing the ciliary muscles can do because they only thicken the lens, which would focus the light even farther in front of the retina. To spread the light rays a little and move the focus point back, a concave lens is used.

## Word List

convex  
thickerconcave  
thinnermost  
retinaleast  
optic nervenear-sightedness  
far-sightedness